Cost-Effectiveness of Thoracotomy Approach for The Implantation of a Centrifugal Left Ventricular Assist Device

Table S1 Baseline Characteristics of Subjects in the LATERAL Trial (N = 144)

Baseline characteristics	Mean ± SD or %
Age (years)	54.2 ± 11.5
Male sex (%)	77.1%
Race (%)	
Caucasian	62.5%
Black/African American	20.8%
Other	16.7%
Body mass index (kg/m2)	27.1 ± 5.1
Body surface area (m2)	2.0 ± 0.26
INTERMACS	
1	3.5%
2	31.3%
3	47.2%
4	15.3%
5+	2.7%
Bridge to transplant	74%
Bridge to transplant possible/eligible	26%
Ischemic cause of heart failure	32.6%
Previous cardiac surgery	22.9%

Duration of heart failure >2 years	72.9%
History of atrial arrhythmia	30.6%
History of major stroke	4.9%
Chronic renal disease	18.8%
Mean arterial blood pressure (mm Hg)	79.5 ± 10.5
Left ventricular ejection fraction <20%	61.1%
Creatinine (mg/dl)	1.3 ± 0.7
Central venous pressure (mm Hg)	10.4 ± 5.6
Cardiac index (liters/min/m2)	2.1 ± 0.54

INTERMACS: Interagency Registry for Mechanically Assisted Circulatory Support

Table S2 Results – Scenario Analysis – Medical Management Survival HR:0.15

	Costs	QALYs
LVAD	551,934	9.77
Medical Management	273,355	5.23
Difference	278,579	4.54
ICER ($/QALY)		61,336

LVAD: Left Ventricular Assist Device; ICER: Incremental Cost-Effectiveness Ratio; QALY: Quality Adjusted Life Years

Table S3 Results – Scenario Analysis – Medical Management Survival HR:0.10

	Costs	QALYs
LVAD	551,934	9.77
Medical Management	216,347	4.13
Difference	335,586	5.64
ICER ($/QALY)		59,527

LVAD: Left Ventricular Assist Device; ICER: Incremental Cost-Effectiveness Ratio; QALY: Quality Adjusted Life Years

Table S4 Results – Scenario Analysis – Heart Transplant Rate 20%

	Costs	QALYs
LVAD	548,833	9.16
Medical Management	317,382	5.21
Difference	231,545	3.95
ICER ($/QALY)		58,545

LVAD: Left Ventricular Assist Device; ICER: Incremental Cost-Effectiveness Ratio; QALY: Quality Adjusted Life Years

Table S5 Results – Scenario Analysis – Heart Transplant Rate 10%

	Costs	QALYs
LVAD	538,833	8.33
Medical Management	298,398	3.94
Difference	240,436	4.38
ICER ($/QALY)		54,856

LVAD: Left Ventricular Assist Device; ICER: Incremental Cost-Effectiveness Ratio; QALY: Quality Adjusted Life Years

Table S6 Results – Scenario Analysis – Sternotomy Adverse Events

	Costs	QALYs
Thoracotomy LVAD	551,934	9.77
Sternotomy AEs LVAD	572,871	9.42
Difference	-20,937	0.35
ICER ($/QALY)		Thoracotomy Dominates

LVAD: Left Ventricular Assist Device; ICER: Incremental Cost-Effectiveness Ratio; QALY: Quality Adjusted Life Years; AE: Adverse Event

Table S7. VAD and Heart Transplant Procedure Codes

	ICD-9 Procedure Codes	ICD-10 Procedure Codes
VAD	37.66	02HA0QZ
HT	37.51	02YA0Z0, 02YA0Z1, 02YA0Z2

VAD: Ventricular Assist Device; HT: Heart Transplantation

Table S8. Adverse Event Codes used for the claim analysis

Adverse Event	**ICD-9 Diagnosis Codes**	**ICD-10 Diagnosis Codes**
Driveline Infection	909.3, 996.00, 996.09, 996.1, 996.61, 996.62, 998.51, 998.59, V58.89	T81.4XXA, T81.4XXD, T81.4XXS, T82.510A,T82.510D, T82.510S, T82.511A, T82.511D, T82.511S, T82.512A, T82.512D, T82.512S, T82.513A, T82.513D, T82.513S, T82.514A, T82.514D, T82.514S, T82.515A, T82.515D, T82.515S, T82.518A, T82.518D, T82.518S, T82.519A, T82.519D, T82.519S, T82.520A, T82.520D, T82.520S, T82.521A, T82.521D, T82.521S, T82.522A, T82.522D, T82.522S, T82.523A, T82.523D, T82.523S, T82.524A, T82.524D, T82.524S, T82.525A, T82.525D, T82.525S, T82.528A, T82.528D, T82.528S, T82.529A, T82.529D, T82.529S, T82.530A, T82.530D, T82.530S, T82.531A, T82.531D, T82.531S,

		T82.532A, T82.532D, T82.532S, T82.533A, T82.533D, T82.533S, T82.534A, T82.534D, T82.534S, T82.535A, T82.535D, T82.535S, T82.538A, T82.538D, T82.538S, T82.539A, T82.539D, T82.539S, T82.590A, T82.590D, T82.590S, T82.591A, T82.591D, T82.591S, T82.592A, T82.592D, T82.592S, T82.593A, T82.593D, T82.593S, T82.594A, T82.594D, T82.594S, T82.595A, T82.595D, T82.595S, T82.598A, T82.598D, T82.598S, T82.599A, T82.599D, T82.599S, T82.7XXA, T82.7XXD, T82.7XXS
GI Bleed	456.0, 456.20, 530.21, 535.01, 535.11, 535.21, 535.41, 535.51, 535.61	I85.01, I85.11, K22.11, K29.01, K29.41, K29.51, K29.61, K29.71, K29.81, K29.91
RHF	428.9	I50.810, I50.811, I50.812, I50.813, I50.814, I50.82, I50.83, I50.84, I50.89, I50.9

GI: Gastro-Intestinal; RHF: Right Heart Failure

Table S9. Stroke MS-DRG Codes

	MS-DRG Codes
Stroke	061, 062, 063, 064, 065, 069

Figure S1. LATERAL Survival – Actual and Weibull Model Fit

